



February 12, 2019

To: Fantastic Gardens Humboldt, INC.
APN: 210-141-008
APPS#11966

RE: Pond Stability Report

This memo summarizes the assessment of an existing off-stream pond located on APN: 210-141-008. The pond was inspected and assessed for stability and risk of failure.

The pond is located at 40.4264°, -123.5833°, at an elevation of approximately 4,000 ft above sea level. The pond is located on a large, natural bench in the middle of a relatively flat, forested hillslope with an average slope of approximately 8%. The pond was constructed sometime between 2005 and 2009. The pond is approximately 50 ft X 65 ft, has a surface area of $\pm 3,000 \text{ ft}^2$ and an estimated depth of 9 ft. The capacity of the pond is estimated to be $\pm 150,000$ gallons.

The pond was constructed by excavating an oval depression into native soils. The excavated material was used to construct embankments surrounding the South to South-East sides of the depression. The pond is filled from rainwater caught on the hillslope above the pond and from direct precipitation. A small class II tributary to Dairy Creek is located approximately 75 ft west of the top bank of the pond. The tributary does not supply any surface water to the pond.

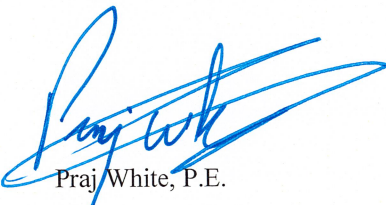
The embankment on the East side of the pond has been lowered, constructing a spillway. The current spillway is approximately 4 ft wide, consists of native soils and does not have any erosion protection or structure to convey overflow. There is approximately 4 ft elevation difference between the spillway crest and the top of the embankment, allowing for approximately 4 ft of free board. The location of the current spillway allows excess water to travel down a gravel road for approximately 300 ft, eventually intersecting the class II tributary to Dairy Creek.

The pond was inspected for failure mechanisms such as erosion, breaching, seepage, slides, sloughing and movement. The pond embankment fill is minimal in height (approximately 5-7 feet). The pond was constructed with native material and in a geologically stable area.

Based on my inspection and assessment, I recommend the pond should be lined, have a spillway designed, and be permitted by the California Department of Fish and Wildlife and Humboldt County prior to further work.

Please contact me at (707)798-6438 or at Praj@NorthPointEureka.com with any questions or concerns.

Sincerely,



Praj White, P.E.



Pond Stability Assessment Map (1 of 3)
Fantastic Gardens Humboldt, INC.
APN: 210-141-008
APPS# 11966



State HWY 36

36

APN: 210-141-008



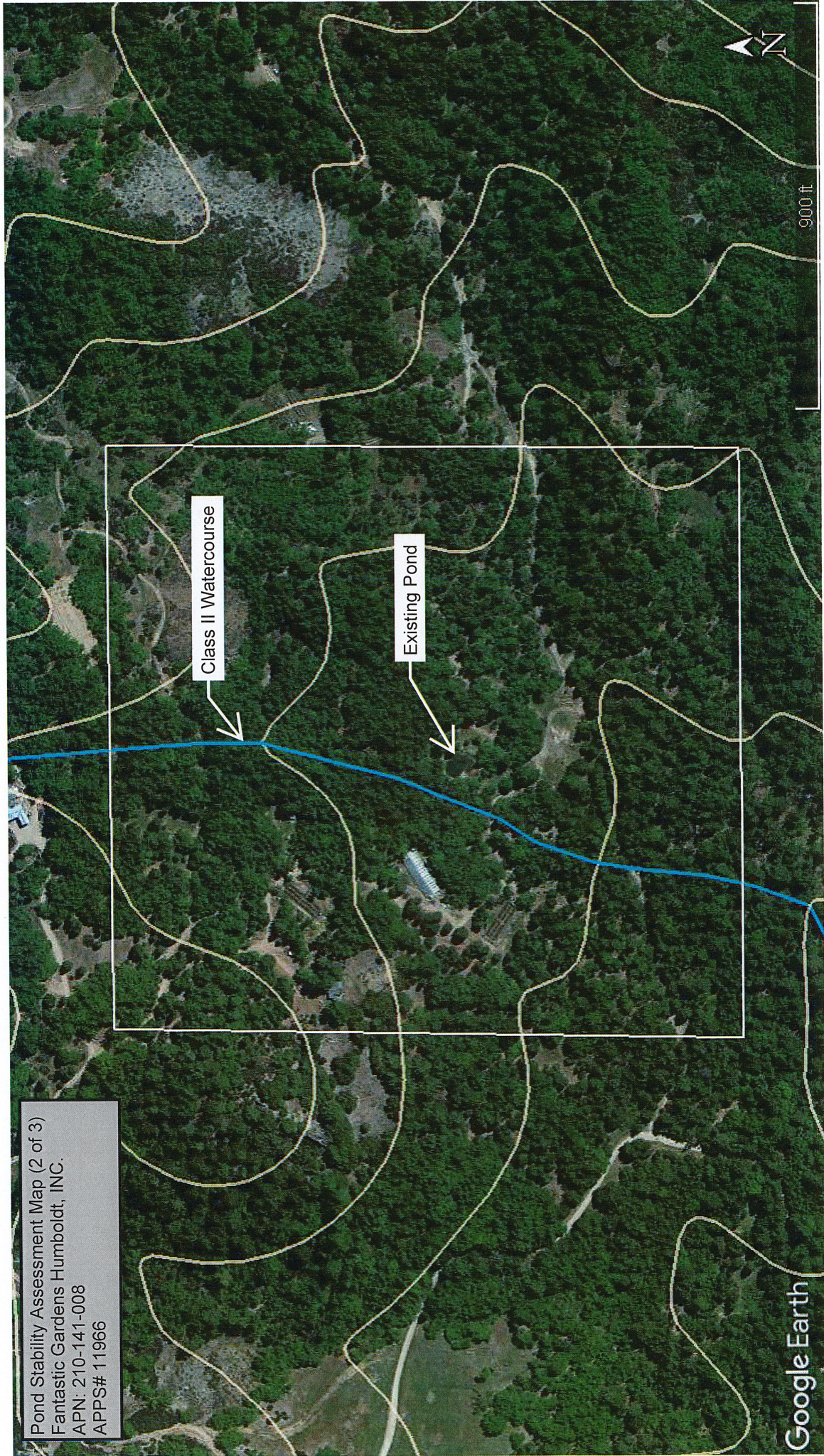
Van Duzen Rd



2 mi

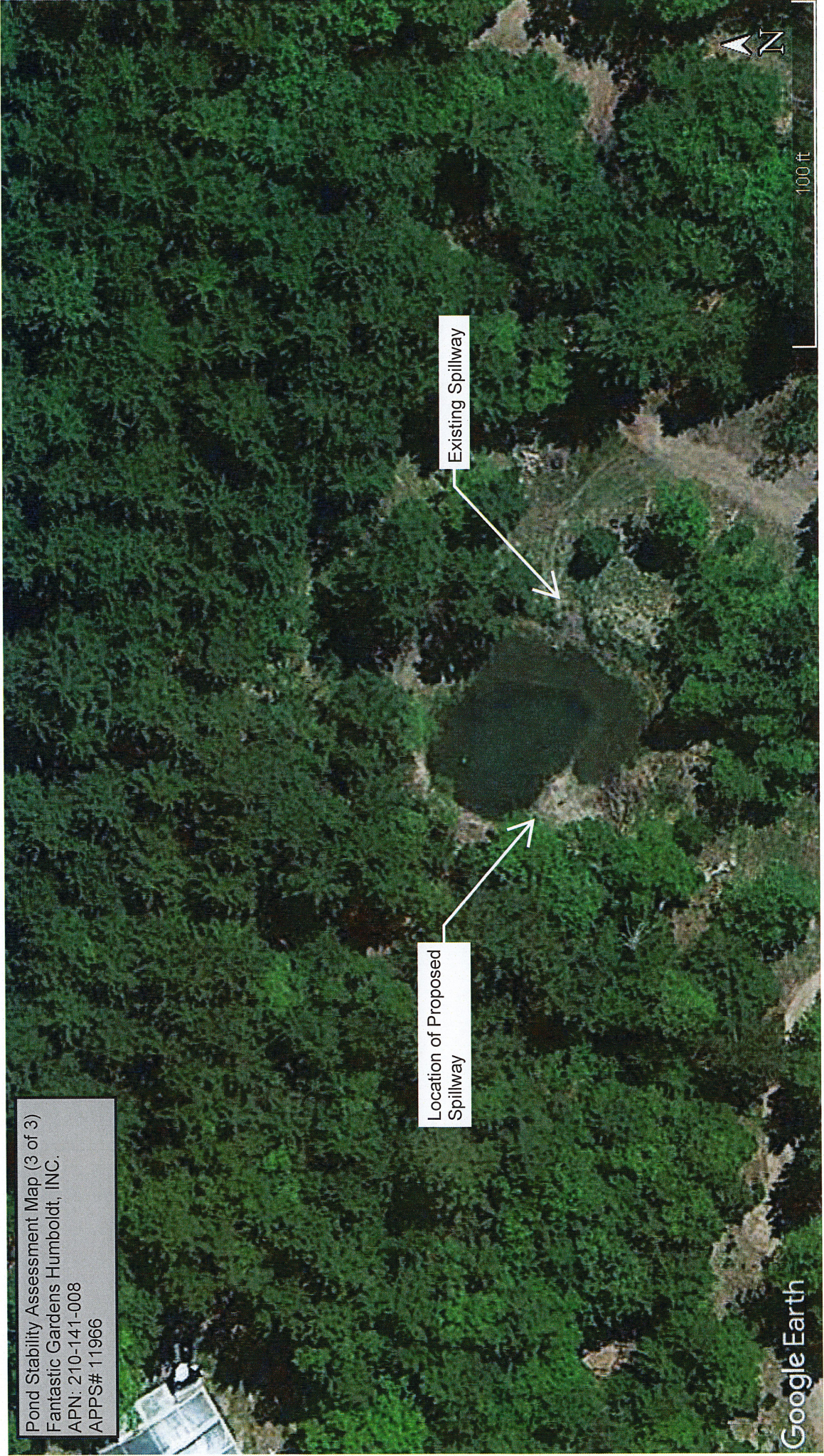
Google Earth

Pond Stability Assessment Map (2 of 3)
Fantastic Gardens Humboldt, INC.
APN: 210-141-008
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Google Earth

Pond Stability Assessment Map (3 of 3)
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Google Earth



Figure 1: Entire pond. Facing East.



Figure 2: North embankment of pond.



Figure 3: East embankment of pond. The existing spillway can be seen on the East side of the embankment.



Figure 4: South embankment of pond.



Figure 5: Current spillway located on East embankment of pond.



Figure 6: Current overflow flow path.



Figure 7: Location of proposed spillway. West embankment of pond. Facing East.



Figure 8: Downstream of proposed spillway. Class II tributary located approximately 75 ft downstream of proposed spillway.